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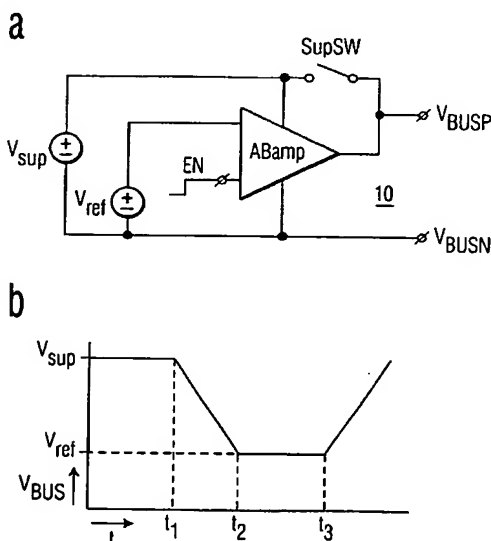
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[Continued on next page]

(54) Title: TURN-ON BUS TRANSMITTER WITH CONTROLLED SLEW RATE



(57) Abstract: An amplifier/driver (40) for a bus has an output transistor (M1) that is controlled by a controlled current source (I1). In a quiescent state, the output transistor is configured as part of a current mirror (M1, M11) that maintains a gate-source voltage on the output transistor above the threshold voltage of the output transistor, thereby providing a fast turnon turn-on time. In an active state, the controlled current source provides a substantially constant current to the output transistor to achieve a controlled slew-rate, then reduces the current to the output transistor when a desired output voltage level is achieved. To improve power efficiency, a second controlled current source (I2) provides current to the output load when the desired output voltage level is achieved. To minimize transients, a class-AB control circuit (710) provides a minimum bias current to the output transistor, to prevent it from turning off when the desired output voltage level is achieved.



Declaration under Rule 4.17:

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TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

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Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, IBM-TDB

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 281 730 B1 (VU HA CHU) 28 August 2001 (2001-08-28)	1,12-15
A	column 3, line 39 - column 7, line 67; figures 1-3	3,4,10, 11
X	EP 0 575 676 A (PIONEER DIGITAL DESIGN CENTRE) 29 December 1993 (1993-12-29)	1,17
A	column 8, line 7 - column 9, line 41; figures 4a-4c	3,6
X	US 4 825 099 A (BARTON STEVEN K) 25 April 1989 (1989-04-25)	1
A	column 2, line 61 - column 4, line 68; figures 1,2	3
A	US 5 021 730 A (SMITH MICHAEL D) 4 June 1991 (1991-06-04)	1,2
	column 3, line 27 - line 59; figure 1	
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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